

**FORMULATION OF A SILICON GERMANIUM-ON-INSULATOR
STRUCTURE BY OXIDATION OF A BURIED POROUS SILICON LAYER**

ABSTRACT OF THE DISCLOSURE

A simple and direct method of forming a SiGe-on-insulator that relies on the oxidation of a porous silicon layer (or region) that is created beneath a Ge-containing layer is provided. The method includes the steps of providing a structure comprising a Si-containing substrate having a hole-rich region formed therein and a Ge-containing layer atop the Si-containing substrate; converting the hole-rich region into a porous region; and annealing the structure including the porous region to provide a substantially relaxed SiGe-on-insulator material.